

CLAIMS

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1. An MPEG compatible digital signal processing system comprising:
an input network (12, 14...) for receiving a datastream of MPEG coded data;
an interleaving network (24, 27) responsive to said datastream for deriving
therefrom multiple datastreams (P1, P2) each constituted by a predetermined
sequence of interleaved image data; and
an image signal processor (30, 32, 40, 42, 36, 38...) responsive to said
multiple datastreams for producing decoded image information.

2. A system according to claim 1, wherein
said interleaved image data comprises data block components of an MPEG
compatible macroblock containing pixel representative information.

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3. A system according to claim 1, wherein
said interleaving network produces a first datastream (P1) of interleaved first
and second pixel block components (A, C), and a second datastream (P2) of
interleaved third and fourth pixel block components (B, D).

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4. A system according to claim 3, wherein
said first, second, third and fourth pixel block components are components of
an MPEG compatible macroblock.

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5. A system according to claim 1, wherein said input network includes
a decoder (14) for decoding said MPEG coded datastream; and
a decompressor (18, 20) for decompressing output signals from said
decoder; wherein
said interleaving network responds to output signals from said
30 decompressor.

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6. A system according to claim 1 and further including
a memory (60) for storing image representative data; and
a motion compensation network (90) coupled to said memory; wherein
said image signal processor and said motion compensation network
comprise a DPCM loop.

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A method for processing a datastream of MPEG coded image representative data, comprising the steps of
decoding said data to produce a decoded datastream;
producing, from said decoded datastream, multiple datastreams with a
5 predetermined sequence of mutually interleaved data blocks representing image pixels;
processing said interleaved data blocks on an interleaved basis; and
storing data blocks from said processing step.

10 8. A method according to claim 7, wherein
said producing step produces a first datastream of interleaved first and
second pixel block components, and a second datastream of interleaved third and
fourth pixel block components.

15 9. A method according to claim 8, wherein
said interleaved pixel blocks comprise an MPEG compatible macroblock.

10. A method according to claim 7, wherein
said processing step includes DPCM processing of pixel data.

20 11. A method according to claim 10, wherein said DPCM processing step
includes the further steps of
decompressing data blocks stored in said storing step; and
motion compensation processing decompressed data blocks produced by
25 said decompressing step.

12. A method according to claim 9, wherein
said processing step comprises the steps of predicting pixel values and
compressing pixel values.

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cy 13. A method for processing a datastream of MPEG coded image
representative data, comprising the steps of:
receiving an input datastream of MPEG coded data;
decoding said input datastream to produce a decoded datastream of data
5 blocks containing pixel representative information;
processing said decoded datastream to produce therefrom a first datastream
comprising a first and second groups of data block components interleaved in a
predetermined sequence, and a second datastream comprising third and fourth
groups of data block components interleaved in a predetermined sequence; and
10 decoding to said first and second datastreams to produce decoded image
information.

14. A method according to claim 13, wherein
said first group is constituted by first and second pixel blocks of an MPEG
15 compatible macroblock; and
said second group is constituted by third and fourth pixel blocks of an MPEG
compatible macroblock.

20 15. A method according to claim 14, wherein
said first, second, third and fourth groups comprise the same macroblock.